WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
NEVADA

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE.
and
NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with the Federal, State and private organizations listed on the last page of this report.

AS OF
JAN. 1, 1962

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado and State of Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer and Other Agencies
Columbia	Monthly (Jan.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Upper Missouri and State of Montana	Monthly (Feb.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
West-Wide	Oct. 1, Apr. 1, May 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. Agr. Exp. Station Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Feb.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Ore. Agr. Exp. Station Oregon State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

Copies of these various reports may be secured from:

Head, Water Supply Forecasting Section
Soil Conservation Service
P.O. Box 4170, Portland 8, Oregon

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Comptroller, Water Rights Br., Dept. of Lands and Forests, Parliament Bldg., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, Sacramento, Calif.

USDA-SCS-PORTLAND, OREG 1961

WATER SUPPLY OUTLOOK
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for
NEVADA

Report prepared by

MANES BARTON
and
ROY E. MALSOR, JR.

SOIL CONSERVATION SERVICE
1479 WELLS AVENUE.....RENO, NEVADA

JANUARY 8, 1962

Issued by

CHARLES W. CLEARY, JR.
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

HUGH A. SHAMBERGER
DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA

USDA-SCS-PORTLAND, OREG. 1961

INDEX TO NEVADA SNOW COURSES
(By Basins)

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
SNAKE RIVER BASIN					
SNAKE RIVER					
15H1MA	BEAR CREEK	31	46N	58E	7800
15G4M*	BIG BENO	30	45N	56E	6700
15H2	FOX CREEK	33	46N	58E	6800
15H13	GOAT CREEK	31	46N	60E	8800
15H5*	GOLO CREEK	31	45N	56E	6600
15H15A	HUMMINGBIRO SPRINGS	6	45N	60E	B945
14H1	JAKES CREEK	6	42N	62E	7000
15H14	POLE CREEK RANGER STATION	13	46N	59E	8330
15H1Ba	REO POINT	15	47N	61E	7940
15H3A	76 CREEK	6	44N	58E	7100
OWYHEE RIVER					
15H4M	BIG BENO	30	45N	56E	6700
17H2*	BUCKSKIN, LOWER	25	45N	39E	6700
17H1*	BUCKSKIN, UPPER	11	45N	39E	7200
15H7*	FRY CANYON	31	43N	54E	6700
15H5	GOLD CREEK	31	45N	56E	6600
17H4*	GRANITE PEAK	22	44N	39E	7B00
16H1M	JACK CREEK, LOWER	1B	42N	53E	6800
16H2	JACK CREEK, UPPER	9	42N	53E	7250
16H4	JACKS PEAK	2B	42N	53E	B420
16H5	LAUREL ORAW	20	45N	53E	6700
17G4a	LOUSE CANYON (OREG.)	27	40S	44E	6440
17H3*	MARTIN CREEK	1B	44N	40E	6700
15H6M*	ROOEO FLAT	36	43N	53E	6800
15H9M	TAYLOR CANYON	35	39N	53E	6200
15H8*	TREMEWAN RANCH	9	39N	55E	5700
INTERIOR					
UPPER HUMBOLOT RIVER					
15H1MA*	BEAR CREEK	31	46N	58E	7800
15H4M*	BIG BENO	30	45N	56E	6700
15J12	CORRAL CANYON	27	2BN	57E	8500
15J1	OORSEY BASIN	28	35N	60E	B100
15J3	ORY CREEK	5	34N	60E	6500
15H2*	FOX CREEK	33	46N	58E	6B00
15H7	FRY CANYDN	31	43N	54E	6700
15H5*	GOLO CREEK	31	45N	56E	6600
15J9	GREEN MOUNTAIN	23	29N	57E	B000
15J10	HARRISON PASS #1	9	2BN	57E	6600
15J11	HARRISON PASS #2	16	2BN	57E	7400
16H1M*	JACK CREEK, LOWER	1B	42N	53E	6800
16H2*	JACK CREEK, UPPER	9	42N	53E	7250
16H4*	JACKS PEAK	2B	42N	53E	B420
15J4	LAMOILLE #1	15	32N	58E	7100
15J5	LAMOILLE #2	14	32N	5BE	7300
15J6	LAMOILLE #3	24	32N	5BE	7700
15J7	LAMOILLE #4	19	32N	59E	B000
15JB	LAMOILLE #5	31	32N	59E	8700
15H6M	ROOEO FLAT	36	43N	53E	6B00
15J2	RYAN RANCH	1	34N	59E	5800
15H3A*	76 CREEK	6	44N	5BE	7100
15H9M*	TAYLOR CANYDN	35	39N	53E	6200
15HB	TREMEWAN RANCH	9	39N	55E	5700
15H10	TROUT CREEK, LOWER	2B	37N	61E	6900
15H11	TROUT CREEK, UPPER	4	36N	61E	B500
LOWER HUMBOLOT RIVER					
17K1	BIG CREEK CAMP GROUNO	10	17N	43E	6600
17K2	BIG CREEK MINE	23	17N	43E	7600
17K3	BIG CREEK, UPPER	26	17N	43E	8000
17H2	BUCKSKIN, LOWER	25	45N	39E	6700
17H1	BUCKSKIN, UPPER	11	45N	39E	7200
17J2	GOLCONOA #2	22	35N	39E	6000
17H4	GRANITE PEAK	22	44N	39E	7800
17H5	LAMANCE CREEK	13	42N	38E	6000
17L1	LOWER CORRAL	12	11N	40E	7500
17H3	MARTIN CREEK	18	44N	40E	6700
16H3	MIOAS	18	39N	46E	7200
17L2	UPPER CORRAL	20	11N	41E	B500
EASTERN NEVAOA					
14L1	BAKER #1	29	13N	69E	7950
14L2	BAKER #2	30	13N	69E	8950
14L3	BAKER #3	25	13N	68E	9250
14K2	BERRY CREEK	26	17N	65E	9100
14K1	BIRO CREEK	34	19N	65E	7500
15J13	CAVE CREEK	25	27N	57E	7500
15J14	HAGER CANYON	34	27N	57E	8000
15J15	HOLE-IN-MTN.	6	35N	61E	7900
14K8	KALAMAZOO CREEK	34	20N	65E	7400
14K3	MURRAY SUMMIT	25	16N	62E	7250
15K1	ROBINSON SUMMIT	34	18N	61E	7600
14K7	SILVER CREEK #2	30	16N	69E	8000
14K5	WARO MOUNTAIN #2	25	15N	62E	7875
15L1*	WHITE RIVER #1	31	13N	59E	7400
CENTRAL GREAT BASIN					
18M2	CAMPITO MTN	19	5S	35E	10200
15N2	CLARK CANYON	B	19S	56E	9000
1BG6a*	OENIO CREEK (OREG.)	14	41S	34E	6000
1BM1	MONTGOMERY PASS	4	1N	33E	7100
15N1	TROUGH SPRINGS	23	1BS	55E	B500

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
NORTHERN GREAT BASIN					
19H1	BALO MOUNTAIN	17	45N	21E	6720
20H5	BARBER CREEK	23	39N	16E	6 500
20H6	CEDAR PASS	12	43N	14E	7100
1BH1	OISASTER PEAK	B	47N	34E	6 500
20H3a	OISMAL SWAMP (CAL.)	31	48N	22E	7000
20H7	EAGLE PEAK	35	40N	15E	8300
19H3	49-MTN	7	42N	19E	6000
19H2	HAYS CANYON	1	39N	1BE	6400
18H2	LEONARD CREEK	13	42N	28E	5900
19H4a	LITTLE BALLY MTN	B	45N	19E	6000
17G5a	OREGON CANYON (OREG.)	9	40S	40E	7240
17H6a	OUINN RIDGE	9	47N	41E	6300
20H4	RESERVATION CREEK	12	46N	15E	5900
18G5a*	TROUT CREEK (OREG.)	10	41S	3BE	7B00
LAKE TAHOE					
19L14	OAGGETTS PASS	19	13N	19E	7350
20L5	ECHO SUMMIT (CAL.)	6	11N	18E	7500
19L2	FREEL BENCH (CAL.)	36	12N	1BE	7300
19K6	GLENBROOK #2	13	14N	18E	6900
19L3	HAGANS MEAOOW (CAL.)	36	12N	1BE	8000
20L4	LAKE LUCILLE (CAL.)	28	12N	17E	B400
19K4	MARLETTE LAKE	13	15N	1BE	B000
19K2*	MT. ROSE	7	17N	19E	9000
20L3	RICHAROSONS #2 (CAL.)	6	12N	1BE	6500
20L1	RUBICON #1 (CAL.)	6	13N	17E	8100
20L2	RUBICON #2 (CAL.)	6	13N	17E	7500
20K16	TAHOE CITY (CAL.)	6	15N	17E	6250
19L1	UPPER TRUCKEE (CAL.)	21	12N	1BE	6400
20K17	WARO CREEK (CAL.)	21	15N	16E	7000
TRUCKEE RIVER					
20K14	BOCA #2 (CAL.)	28	18N	17E	5900
20K11	OONNER LAKE #1 (CAL.)	14	17N	15E	5950
20K21	OONNER PARK #2 (CAL.)	3	16N	16E	6000
20K10*	ODNNER SUMMIT (CAL.)	25	17N	14E	6900
20K7*	FORDYCE LAKE (CAL.)	34	1BN	13E	6500
20KB*	FURNACE FLAT (CAL.)	10	17N	13E	6600
20K4	INDEPENDENCE CAMP (CAL.)	34	19N	15E	7000
20K3	INOEPENOENCE CREEK (CAL.)	14	19N	15E	6500
20K5	INOEPENOENCE LAKE (CAL.)	9	1BN	15E	B450
19K3	LITTLE VALLEY	17	16N	19E	6300
19K2	MT. ROSE	7	17N	19E	9000
20K6	SAGE HEN CREEK (CAL.)	7	1BN	16E	6500
20K19	SOUAW VALLEY #2 (CAL.)	6	15N	16E	7500
20K16*	TAHOE CITY (CAL.)	6	15N	17E	6250
20K13	TRUCKEE #2 (CAL.)	22	17N	16E	6400
20K17*	WARD CREEK (CAL.)	21	15N	16E	7000
20K2	WEBBER LAKE (CAL.)	20	19N	14E	7000
20K1*	WEBBER PEAK (CAL.)	30	19N	14E	B000
CARSON RIVER					
19L5	BLUE LAKES (CAL.)	30	9N	19E	B000
19L4	CARSON PASS, UPPER (CAL.)	22	10N	1BE	B600
19K5	CLEAR CREEK	6	14N	19E	7300
19L6A	POISON FLAT (CAL.)	25	BN	21E	7900
19L16a	UPPER FISH VALLEY (CAL.)	1B	7N	22E	B050
WALKER RIVER					
19L11	BUCKEYE FORKS (CAL.)	20	4N	23E	B500
19L10	BUCKEYE ROUGHS (CAL.)	15	4N	23E	7900
19L12A	CENTER MOUNTAIN (CAL.)	4	3N	23E	9400
1BL1	LAPON MEADOW	36	BN	2BE	9000
19LB	LEAVITT MEADOWS (CAL.)	4	5N	22E	7200
1BL2	MT. GRANT	23	BN	2BE	9000
19L7	SONORA PASS (CAL.)	1	5N	21E	BB00
19M1*	TIOGA PASS (CAL.)	30	1N	25E	9900
19L13	VIRGINA LAKES (CAL.)	5	2N	25E	9500
19L9	WILLOW FLAT (CAL.)	21	5N	23E	B250
COLORADO					
LOWER COLORAOO RIVER					
15N5	KYLE CANYON	26	19S	56E	B200
15N4	LEE CANYON #1	10	19S	56E	B300
15N3	LEE CANYON #2	9	19S	56E	9000
14M1	MATHEW CANYON	11	5S	70E	6000
14M2	PINE CANYON	11	6S	69E	6200
15N7	RAINBOW CANYON #2	6	20S	57E	B100
15L1	WHITE RIVER #1	31	13N	59E	7400

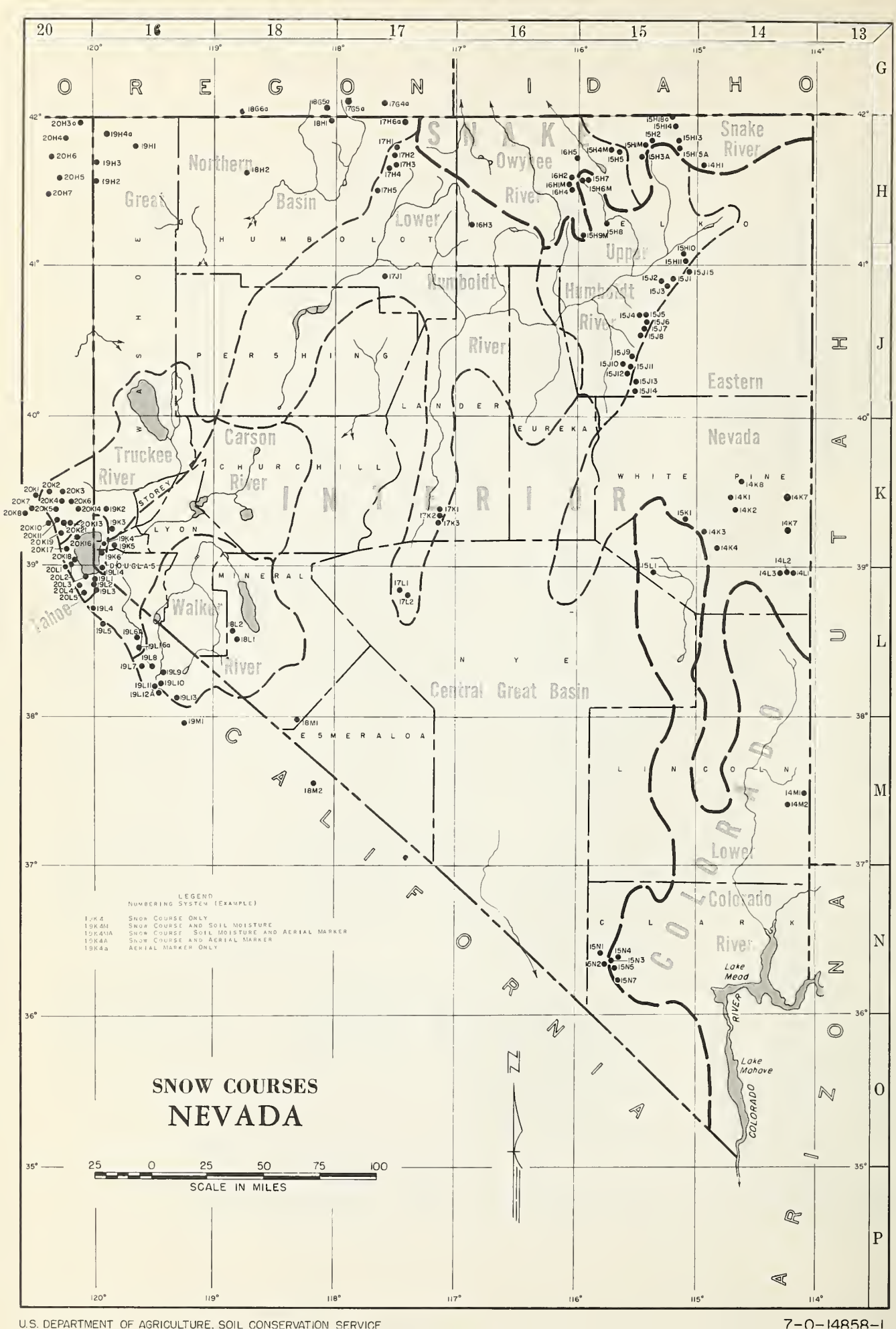
LEGENO

NUMBERING SYSTEM (EXAMPLE)

19K4	SNOW COURSE ONLY
19K4M	SNOW COURSE ANO SOIL MOISTURE
19K4MA	SNOW COURSE, SOIL MOISTURE ANO AERIAL MARKER
19K4A	SNOW COURSE AND AERIAL MARKER
19K4a	AERIAL MARKER ONLY

* LOCATED ON AOJACENT WATERSHEO

USDA SCS-PORTLAND OREG 1961 M-1B24



U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

7-0-14858-1

WATER SUPPLY OUTLOOK
FOR NEVADA

January 1, 1962

* *
* Nevada's spring-summer water supply outlook is rated *
* extremely poor for east slope Sierra streams and fair *
* for Owyhee and Upper Humboldt streams. Snow stored *
* water in the Sierras is only 35-50 percent of average;*
* and 110 percent of the January 1 average in the Upper *
* Humboldt and Owyhee watersheds. Reservoirs hold only *
* 6 percent of average and 3 percent of capacity. *
* *

Nevada water users served from streams heading in the Sierra have little cause for optimism. Water content of snow at key snow courses in the Lake Tahoe-Truckee, Carson and Walker watersheds is only 35-50 percent of the January 1 average. Since the November snow storms there has been little appreciable snowfall. Clear weather, wind and warm temperatures in December removed much of the November snowpack.

Lake Tahoe showed a slight improvement during late November and early December. Although it remained below its natural rim of 6223.0 feet above sea level, it rose to 6222.8 on December 2-4. Since then evaporation has lowered it to 6222.7 on December 31, and it will continue to fall until precipitation gains exceed evaporation losses. Reservoir storage has improved slightly since October 1 in Topaz, Bridgeport, Lahontan and Ryepatch. However, these reservoirs are much below normal for this time of year. In aggregate these four reservoirs plus Lake Tahoe and Boca now contain 3 percent of their usable capacity and are currently 6 percent of their January 1 average.

Snow surveys in the Sierra indicate a mountain snowpack which is less than last year this date and only 35-50 percent of average. Usually by January 1, 40-50 percent of the total winter snowpack should be on the ground; this year only about 20 to 25 percent is one the ground. In order to have a normal February 1 snowpack, January snowfall will have to be at least twice the usual amount.

In northeast Nevada the mountain snowpack is much better than the past two years for this date and is currently 110 percent of average. Due to the residual effects of the past several drought years on soil moisture, baseflow and ground water status, only fair spring-summer runoff can be expected in the Upper Humboldt-Owyhee streams should mountain snow water content continue at this normal to slightly above normal level through April 1.

Irrigation season streamflow forecasts are not issued on January 1. More extensive snow surveys will be made on February 1, at which time streamflow forecasts will be issued for a few representative streams.

Mountain soil conditions are rated fair throughout the State. An appreciable amount of snowmelt water will be required to bring these soils to full moisture capacity. In turn this will reduce the amount of snowmelt water for producing April-July streamflow.

As of this date the coming summer irrigation water supply outlook appears to be similar to that of past three years. Water users should continue to exercise extreme conservatism on any agricultural decisions in which water supply this coming irrigation season is a factor until the pattern of this winters mountain snowpack becomes better defined.

NEVADA

STATUS OF RESERVOIR STORAGE

January 1, 1962

Basin and Stream	Reservoir	Usable Capacity (1000 AF)	Usable Storage 1000's A. F. 1962	1961	1960	January 1 15-Yr. Ave. 1943-57	Change since Sept. 30, 1961 1000's A. F.
Lower Humboldt	Rye Patch	179	5	7	20	94	/ 2
Colorado	Mohave	1,810	1,681	1,620	1,657	1,506*	/ 331
Colorado	Mead	27,217	18,023	19,294	19,534	18,140	/ 95
Tahoe	Tahoe	732	0	106	246	434	- 32
Truckee	Boca	41	1	9	10	15	- 2
Carson	Lahontan	286	26	58	63	176	/ 13
West Walker	Topaz	59	7	6	8	30	/ 5
East Walker	Bridgeport	42	10	7	11	26	/ 6

* 1951-57

January 1, 1962

NEVADA SNOW SURVEYS

Drainage Basin and Snow Course	Elev.	SNOW COVER MREASUREMENTS 1962 Date of Survey	1962 Snow Depth (Inches)	1962 Water Content (Inches)	Past Record Water Content 1961	1960	15-Yr. 1943-57 Average Jan. 1	Apr. 1
SNAKE RIVER								
Bear Creek	8145	12/29	31	8.1[a]	6.2	4.7	7.1*	21.5*
Hummingbird Springs	8870	12/29	32	8.4[a]	3.5	4.0	7.8*	22.8*
Pole Creek	8330	12/28	29	7.6	6.6	3.7	6.7*	20.5*
Red Point	7940	12/29	12	3.1[a]	3.7	-	-	-
OWYHEE RIVER								
Big Bend	6700	12/28	14	3.3	2.5	1.4	3.3*	10.5
Gold Creek	6600	12/28	10	2.5	1.2	T	1.9*	6.0
Jack Creek, Lower	6800	12/29	8	1.8	1.5	1.0	1.1*	2.5
Jack Creek, Upper	7250	12/29	20	4.8	3.0	1.8	3.5*	10.9
Taylor Canyon	6200	12/29	8	1.8	0.8	1.2	1.8*	3.5
HUMBOLDT RIVER								
Fry Canyon	6700	12/28	14	3.5	2.3	1.7	3.1*	9.2
Rodeo Flat	6800	12/28	9	2.5	2.4	1.6	3.3*	8.7
Tremewan Ranch	5700	12/28	T	T	T	T	0.7*	0.8
LAKE TAHOE-TRUCKEE RIVER								
Freel Bench	7300	12/28	9	2.8	-	-	-	11.4*
Glenbrook #2	6900	1/3	8	2.2	4.0	-	-	14.5
Hagans Meadows	8000	12/28	13	4.1	-	-	-	19.0*
Richardsons #2	6500	1/3	15	4.4	-	-	-	17.8*
Tahoe City	6250	12/29	5	2.2	-	-	-	11.4
Upper Truckee	6400	12/28	7	2.8	-	-	-	7.4*
Ward Creek	7000	12/29	27	10.0	-	-	-	48.2*
CARSON-WALKER RIVERS								
Sonora Pass	8800	12/27	19	4.6	8.4	-	-	24.1
Virginia Lakes	9500	12/27	15	3.7	-	-	-	18.0*

* Adjusted 15 year average

a Aerial snow depth gage reading; water content estimated

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL
- Soil Conservation Service
- Forest Service
- Geological Survey
- Bureau of Reclamation
- Fish and Wildlife Service
- Army
- Navy
- Weather Bureau
- Agricultural Research Service

STATE
- Nevada Department of Conservation & Natural Resources
  - Division of Water Resources
  - Nevada State Forester-Firewarden
- Nevada Cooperative Snow Surveys
- Colorado River Commission of Nevada
- California Cooperative Snow Surveys
- California Department of Water Resources
- Oregon Cooperative Snow Surveys
- Nevada Association of Soil Conservation Districts
- University of Nevada

PRIVATE
- Walker River Irrigation District
- Amalgamated Sugar Company
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Virginia City Water Company
- Kennecott Copper Corporation
- Squaw Valley Development Company
- Pacific Gas & Electric Company
- Nevada Irrigation District
- Sierra Pacific Power Company
- Washoe County Water Conservation District
- Truckee-Carson Irrigation District
- Pershing County Water Conservation District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1479 WELLS AVENUE
RENO, NEVADA

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COOPERATIVE SNOW SURVEYS

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"The Conservation of Water begins with the Snow Survey"